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CORONA

WHIG ATTN: [REDACTED]

REF: A. [REDACTED]

B. CORONA J-3 SYSTEM HANDBOOK

SUBJ: J-3 CAMERA MANUAL REQUIREMENTS: [REDACTED] COMMENTS

1. INCLUDE OPTICAL PATH DIAGRAMS FOR ALL SYSTEMS.
2. THE FILM PATH DIAGRAM (FIG. 3-3) SHOULD HAVE ROLLER DIMENSIONS, DISTANCES BETWEEN ROLLERS, LOOPERS AND TENSION BARS. ALSO, THE POSITION OF THE CLOCK RECORDING SHOULD BE SHOWN.
3. A FILM PATH DIAGRAM FOR DISIC SHOULD BE INCLUDED WITH APPROPRIATE DIMENSIONS.
4. THE FORMAT DIAGRAM (FIG. 3-5) SHOULD INCLUDE BOTH FWD AND AFT FRAMES. ALL DIMENSIONS SHOULD BE SHOWN, TRANSPORT AND SCAN DIRECTIONS AND ALL DETAILED SECTIONS SHOULD ALSO BE DIMENSIONED. NOTE: DIMENSIONS SHOULD INCLUDE (1) BINARY DOT SIZE; (2) DOT SEPARATION; (3) ROW SEPARATION; (4) LOCATION ON FRAME; (5) RAIL HOLE DIMENSIONS, SPACING AND LOCATION; (6) TIMING PIP DIMENSIONS, SPACING AND LOCATION; (7) P.G. STRIPE DIMENSIONS, SPACING AND LOCATION; (8) P.G. NOD DOT DIMENSIONS, SPACING AND LOCATION.
5. A MAP SHOULD BE ADDED TO TABLE 3-2 SHOWING FRAME, PASS AND MISSION COVERAGE OVER THE TARGET AREA.

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6. ADDITIONAL FILM TYPES SHOULD BE ADDED WITH REVISED COVERAGES FOR COLOR FILM OR U.T.B.

7. THE SCALE CONVERSION TABLE 3-7 SHOULD HAVE A NOTE THAT "THIS GIVES ONLY AN APPROXIMATE SCALE AT THE CENTER OF FORMAT ACROSS THE LINE OF FLIGHT AND SHOULD NOT BE USED EXCEPT FOR GROSS APPROXIMATIONS."

8. THE METHOD OF CALIBRATION SHOULD BE EXPLAINED, WITH SOME DIAGRAMS SHOWING THE COLLIMATOR POSITIONS. THIS APPLIES TO THE PAN CAMERAS, HORIZON CAMERAS, AND DISIC.

9. THE ZERO NOD POSITION SHOULD BE DEFINED AND SHOWN IN THE DIAGRAMS, ALSO THE METHOD OF DETERMINING THE ZERO NOD POSITION SHOULD BE EXPLAINED IN DETAIL.

10. DEFINE THE COORDINATE SYSTEM USED IN TEXT ON PAGE 27. X, Y, Z COORDINATES FOR EACH CAMERA IS PREFERRED.

11. ALSO ON PAGE 27 THE POSITION OF THE TIME WORD IN REFERENCE TO THE CENTER OF FORMAT SHOULD BE DEFINED.

12. LENS DIAGRAMS FOR EACH CAMERA SHOULD BE INCLUDED AND A FWD AND AFT VIEW OF EACH CAMERA SHOULD BE ADDED WITH ALL DIRECTIONS OF MOTION DEFINED. THIS APPLIES TO THE PAN CAMERAS, HORIZON CAMERAS, AND DISIC.

13. THE BINARY WORD FROM EACH OF THE CAMERAS SHOULD HAVE A COMPLETE DIAGRAM FOR THE BINARY, DESIGNATING LOW ORDER BITS, HIGH ORDER BITS, INDEX, ETC.

14. THE SMEAR COMPUTATION FOR THE DISIC SHOULD BE PART OF THE DISIC SECTION.

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15. DYNAMIC AND STATIC RESOLUTIONS SHOULD BE GIVEN FOR ALL SYSTEMS.

16. FIGURE 4-2 SHOULD HAVE THE DIRECTION OF FLIGHT DESIGNATED.

17. FIGURE 4-3 SHOULD DESIGNATE FILM POSITIVE OR NEGATIVE EMULSION UP OR DOWN. PREFERRED TREATMENT IS FILM POSITIVE EMULSION UP. ALSO, COULD DIFFERENCE BETWEEN STARBOARD AND PORT BE SHOWN HERE.

18. FIGURE 4-4 SHOULD DESIGNATE FILM POSITIVE OR NEGATIVE. THE SERIAL NUMBER DIFFERENCE FOR PORT AND STARBOARD SHOULD BE SHOWN.

19. FIGURE 4-5 (A) DESIGNATE MOST AND LEAST SIGNIFICANT BITS; (B) SHOW METHOD OF CORRELATING FRAME TO BINARY TIME. SAME FOR FIGURE 4-7. (B) SHOULD APPLY TO FIGURE 4-6 ALSO.

20. FIGURE 4-6 DIAGRAM NOTE NUMBER 1 TO SHOW THE DIRECTION OF FLIGHT.

21. A MAP COVERAGE FOR FRAME, PASS, AND MISSION OF THE TERRAIN CAMERA SHOULD BE INCLUDED WITH THE COVERAGE FIGURES.

22. SCAN RATES SHOULD BE DISCUSSED IN DETAIL AND THEIR VARIANCES NOTED. METHODS OF DETERMINING SCAN RATES SHOULD BE SHOWN. RESIDUAL IMC FOR SLOW OR FAST SCAN RATES SHOULD BE COMPUTED.

23. THE SLIT SIZES AND VARIANCES SHOULD BE SHOWN BY DIAGRAM IF POSSIBLE.

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24. DERIVATIONS AND FORMULA FOR ALL THE MATHEMATICS INVOLVED IN IMC, NODDING LENS SYSTEMS, SCAN RATES AND PHOTOGRAMMETRIC CALIBRATION SHOULD BE INCLUDED. RESIDUAL SMEAR OR LOSS OF RESOLUTION IN ALL CASES SHOULD BE INCLUDED.

25. V/H RATIOS AND THEIR RESIDUALS FOR THE VARIANCES IN HEIGHT SHOULD BE GIVEN.

26. EXPOSURE COMPUTATIONS SHOULD BE EXPLAINED IN DETAIL FOR SLIT SIZE, SCAN RATE, ETC.

27. GYRO RATES AND DEAD BANDS SHOULD BE DISCUSSED.

28. CHANGE WORDING OF PARAGRAPH 3 ON PAGE 14 TO READ:
EACH PANORAMIC CAMERA CONTAINS TWO HORIZON CAMERA ASSEMBLIES THAT ALLOWS QUICK ANALYTICAL SOLUTIONS OF THE PITCH AND ROLL ATTITUDE OF THE PANORAMIC CAMERA DURING EXPOSURE.

29. SECTION V, DISIC SUB-SYSTEM, SHOULD EXPLAIN THE USES OF THE DISIC SUCH AS: RELATIVE ORIENTATION, ATTITUDE REDUCTION, CONTROL EXTENSION AND POST-FLIGHT MISSION ANALYSIS.

30. SECTION III PAGE 10 CAMERA OPERATION: THE FIRST PARAGRAPH SHOULD EXPLAIN HOW THE CAMERAS OPERATE SUCH AS STEREO SUPPRESS, MONOSCOPIC OPERATION, START AND STOP COMMANDS, MAXIMUM AND MINIMUM OPERATING TIMES.

31. EXPLAIN THE OPERATION OF THE CAPPING SHUTTERS. HOW ARE THEY OPERATED. WHEN ARE THEY OPERATED. WHAT ARE THE LIMITS OF INCIDENT LIGHT THAT CAUSES THE CAPPING ACTION. HOW IS THE EXPOSURE TIME SET AND HOW IS IT CHANGED.

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32. THE DISIC SUB-SYSTEM LACKS INFORMATION ON THE FOLLOWING DATA:

(A) OPTICS; (B) GROUND RESOLUTION; (C) SHUTTER OPERATION AND EFFICIENCY; (D) RESEAU; (E) FIDUCIALS; (F) BAFFLES.

33. A GLOSSARY SHOULD BE SUPPLIED EXPLAINING ALL ABBREVIATIONS AND TERMS USED. SOME EXAMPLES FOLLOW:

DISIC	(T) TANGENTIAL
SLP	AWAR
RMS	SLAVE OPERATION
FMC	INDEPENDENT OPERATION
R.P.C.	ALIGNMENT
C	DYNAMIC RESOLUTION
(R) RADIAL	STATIC RESOLUTION

T O P S E C R E T

-END OF MESSAGE-